1. (Previously Presented) A compound comprising

at least one monomer or polymer comprising:

(a) at least one neutral, positive, or negative increased binding energy hydrogen species having a binding energy

(i) greater than the binding energy of the corresponding ordinary hydrogen species, or

(ii) greater than the binding energy of any hydrogen species for which the corresponding ordinary hydrogen species is unstable or is not observed because the ordinary hydrogen species' binding energy is less than thermal energies at ambient conditions, or is negative; and

(b) at least one other element.

2. (Original) A compound of claim 1 wherein the increased binding energy hydrogen species is selected from the group consisting of H_n, H_n^-, and H_n^+ where n is a positive integer, with the proviso that n is greater than 1 when H has a positive charge.

3. (Original) A compound of claim 1 wherein the increased binding energy hydrogen species is selected from the group consisting of (a) hydride ion having a binding energy that is greater than the binding of ordinary hydride ion (about 0.8 eV) for $p = 2$ up to 23 in which the binding energy is represented by

$$Binding\ Energy = \frac{\hbar^2\sqrt{s(s+1)}}{8\mu_e a_0^2\left[\frac{1+\sqrt{s(s+1)}}{p}\right]^2} - \frac{\pi\mu_0 e^2\hbar^2}{m_e^2 a_0^3}\left(1+\frac{2^2}{\left[\frac{1+\sqrt{s(s+1)}}{p}\right]^3}\right)$$

where p is an integer greater than one, $s = 1/2$, π is pi, $\hbar$ is Planck's constant bar, μ_o is the permeability of vacuum, m_e is the mass of the electron, μ_e is the reduced electron mass, a_o is the Bohr radius, and e is the elementary charge; (b) hydrogen atom having a binding energy greater than about 13.6 eV; (c) hydrogen molecule having a first binding energy greater than about 15.5 eV; and (d) molecular hydrogen ion having a binding energy greater than about 16.4 eV.

4. (Original) A compound of claim 3 wherein the increased binding energy hydrogen

species is a hydride ion having a binding energy of about 3.0, 6.6, 11.2, 16.7, 22.8, 29.3, 36.1, 42.8, 49.4, 55.5, 61.0, 65.6, 69.2, 71.5, 72.4, 715, 68.8, 64.0, 56.8, 47.1, 34.6, 19.2, or 0.65 eV.

5. (Original) A compound of claim 4 wherein the increased binding energy hydrogen species is a hydride ion having the binding energy:

$$Binding\ Energy = \frac{\hbar^2\sqrt{s(s+1)}}{8\mu_e a_0^2\left[\frac{1+\sqrt{s(s+1)}}{p}\right]^2} - \frac{\pi\mu_0 e^2\hbar^2}{m_e^2 a_0^3}\left(1+\frac{2^2}{\left[\frac{1+\sqrt{s(s+1)}}{p}\right]^3}\right)$$

where p is an integer greater than one, $s = 1/2$, π is pi, $\hbar$ is Planck's constant bar, μ_o is the permeability of vacuum, m_e is the mass of the electron, $\mu_e^{\downarrow}$ is the reduced electron mass, a_o is the Bohr radius, and e is the elementary charge.

6. (Original) A compound of claim 1 wherein the increased binding energy hydrogen species is selected from the group consisting of

(a) a hydrogen atom having a binding energy of about $\frac{13.6\,eV}{\left(\frac{1}{p}\right)^2}$ where p is an integer,

(b) an increased binding energy hydride ion (H^-) having a binding energy of about $\frac{\hbar^2\sqrt{s(s+1)}}{8\mu_e a_0^2\left[\frac{1+\sqrt{s(s+1)}}{p}\right]^2} - \frac{\pi\mu_0 e^2\hbar^2}{m_e^2 a_0^3}\left(1+\frac{2^2}{\left[\frac{1+\sqrt{s(s+1)}}{p}\right]^3}\right)$ where $s = 1/2$, π is pi, $\hbar$ is Planck's constant bar, μ_o is the permeability of vacuum, m_e is the mass of the electron, μ_e is the reduced electron mass, a_o is the Bohr radius, and e is the elementary charge;

(c) an increased binding energy hydrogen species $H_4^+(1/p)$;

(d) an increased binding energy hydrogen species trihydrino molecular ion, $H_3^+(1/p)$, having a binding energy of about $\frac{22.6}{\left(\frac{1}{p}\right)^2}\,eV$ where p is an integer,

(e) an increased binding energy hydrogen molecule having a binding energy of about $\frac{15.5}{\left(\frac{1}{p}\right)^2} eV$; and

(f) an increased binding energy hydrogen molecular ion with a binding energy of about $\frac{16.4}{\left(\frac{1}{p}\right)^2} eV$.

7. (Original) A compound of claim 6 wherein p is from 2 to 200.

8. (Original) A compound of claim 1 which is greater than 50 atomic percent pure.

9. (Original) A compound of claim 8 which is greater than 90 atomic percent pure.

10. (Original) A compound of claim 9 which is greater than 98 atomic percent pure.

11. (Original) A compound of claim 1 wherein said increased binding energy hydrogen species is negative.

12. (Original) A compound of claim 11 comprising at least one cation.

13. (Original) A compound of claim 12 wherein the cation is a proton, H_2^+, H_3^+, $H_2^*\left[2c' = \frac{2a_o}{p}\right]^+$, $H_3^+(1/p)$, or $H_4^+(1/p)$.

14. (Original) A compound of claim 1 wherein the other element is an ordinary hydrogen atom or an ordinary hydrogen molecule.

15. (Original) A compound of claim 1 having a formula $[KH_mKCO_3]_n$ wherein m and n are each an integer, the compound contains at least one H, and the hydrogen content H_m of the compound comprises at least one said increased binding energy hydrogen species.

16. (Original) A compound of claim 1 having a formula $[KH_mKNO_3]_n^{m'+}\ n'X^-$ wherein m, m', n and n' are each an integer, X is a singly negative charged anion, the compound contains at least one H, and the hydrogen content H_m of the compound comprises at least one said increased binding energy hydrogen species.

17. (Original) A compound of claim 1 having a formula $[KHKNO_3]_n$ wherein n is an integer, and the hydrogen content H of the compound comprises at least one said increased binding energy hydrogen species.

18. (Original) A compound of claim 1 having a formula $[KHKOH]_n$ wherein n is an integer and the hydrogen content H of the compound comprises at least one said increased binding energy hydrogen species.

19. (Original) A compound of claim 1 having a formula $[MH_mM'X]_n$ wherein m and n are each an integer, M and M' are each an alkali or alkaline earth cation, X is a singly or doubly negative charged anion, the compound contains at least one H, and the hydrogen content H_m of the compound comprises at least one said increased binding energy hydrogen species.

20. (Original) A compound of claim 1 having a formula $[MH_mM'X']_n^{m'+}\ n'X^-$ wherein m, m', n, and n' are each an integer, M and M' are each an alkali or alkaline earth cation, X and X' are a singly or doubly negative charged anion, the compound contains at least one H, and the hydrogen content H_m of the compound comprises at least one said increased binding energy hydrogen species.

21. (Original) A compound of claim 1 having a formula $[MH_mM'X']_n^{m'-}\ n'M''^+$ wherein m, m', n, and n' are each an integer, M, M', and M'' are each an alkali or alkaline earth cation, X and X' are each a singly negative charged anion, the compound contains at least one H, and the hydrogen content H_m of the compound comprises at least one increased binding energy hydrogen species.

22. (Original) A compound of claim 1 having a formula $[MH_m]_n^{m'+}\ n'X^-$ wherein m, m', n, and n' are each an integer, M is alkali or alkaline earth, organic, organometalic, inorganic, or ammonium cation, X is a singly or doubly negative charged anion, the compound contains at

least one H, and the hydrogen content H_m of the compound comprises at least one increased binding energy hydrogen species.

23. (Original) A compound of claim 1 having a formula $[MH_m]_n^{m'-}$ n' M^+ wherein m, m', n, and n' are each an integer, M and M' are an alkali or alkaline earth, organic, organometalic, inorganic, or ammonium cation, the compound contains at least one H, and the hydrogen content H_m of the compound comprises at least one increased binding energy hydrogen species.

24. (Original) A compound of claim 1 having a formula $M(H_{10})_n$ wherein n is an integer, M is other element such as any atom, molecule, or compound, and the hydrogen content $(H_{16})_n$ of the compound comprises at least one increased binding energy hydrogen species.

25. (Original) A compound of claim 1 having a formula $M(H_{10})_n$ wherein n is an integer, M is an increased binding energy hydrogen compound, and the hydrogen content $(H_{16})_n$ of the compound comprises at least one increased binding energy hydrogen species.

26. (Original) A compound of claim 1 having a formula $M^+(H_{16})_n^-$ wherein n is an integer, M is other element such as an alkali, organic, organometalic, inorganic, or ammonium cation, and the hydrogen content $(H_{16})_n^-$ of the compound comprises at least one increased binding energy hydrogen species.

27. (Original) A compound of claim 1 having a formula $M^+(H_{16})_n^-$ wherein n is an integer, M is an increased binding energy hydrogen compound, and the hydrogen content $(H_{16})_n^-$ of the compound comprises at least one increased binding energy hydrogen species.

28. (Original) A compound of claim 1 having a formula $M(H_{16})_n$ wherein n is an integer, M is other element such as any atom, molecule, or compound, and the hydrogen content $(H_{16})_n$ of the compound comprises at least one increased binding energy hydrogen species.

29. (Original) A compound of claim 1 having a formula $M(H_{16})_n$ wherein n is an integer, M is an increased binding energy hydrogen compound, and the hydrogen content $(H_{16})_n$ of the compound comprises at least one increased binding energy hydrogen species.

30. (Original) A compound of claim 1 having a formula $M(H_{24})_n$ wherein n is an integer, M

is other element such as any atom, molecule, or compound, and the hydrogen content $(H_{24})_n$ of the compound comprises at least one increased binding energy hydrogen species.

31. (Original) A compound of claim 1 having a formula $M(H_{24})_n$ wherein n is an integer, M is an increased binding energy hydrogen compound, and the hydrogen content $(H_{24})_n$ of the compound comprises at least one increased binding energy hydrogen species.

32. (Original) A compound of claim 1 having a formula $M(H_{60})_n$ wherein n is an integer, M is other element such as any atom, molecule, or compound, and the hydrogen content $(H_{60})_n$ of the compound comprises at least one increased binding energy hydrogen species.

33. (Original) A compound of claim 1 having a formula $M(H_{60})_n$ wherein n is an integer, M is an increased binding energy hydrogen compound, and the hydrogen content $(H_{60})_n$ of the compound comprises at least one increased binding energy hydrogen species.

34. (Original) A compound of claim 1 having a formula $M(H_{70})_n$ wherein n is an integer, M is other element such as any atom, molecule, or compound, and the hydrogen content $(H_{70})_n$ of the compound comprises at least one increased binding energy hydrogen species.

35. (Original) A compound of claim 1 having a formula $M(H_{70})_n$ wherein n is an integer, M is an increased binding energy hydrogen compound, and the hydrogen content $(H_{70})_n$ of the compound comprises at least one increased binding energy hydrogen species.

36. (Original) A compound of claim 1 having a formula $M(H_{10})_q(H_{16})_r(H_{24})_s(H_{60})_t(H_{70})_u$ wherein q, r, s, t, and u are each an integer including zero but not all zero, M is other element such as any atom, molecule, or compound, and the hydrogen content $(H_{10})_q(H_{16})_r(H_{24})_s(H_{60})_t(H_{70})_u$ of the compound comprises at least one increased binding energy hydrogen species.

37. (Original) A compound of claim 1 having a formula $M(H_{10})_q(H_{16})_r(H_{24})_s(H_{60})_t(H_{70})_u$ wherein q, r, s, and t are each an integer including zero but not all zero, M is an increased binding energy hydrogen compound, and the hydrogen content $(H_{10})_q(H_{16})_r(H_{24})_s(H_{60})_t(H_{70})_u$ of the compound comprises at least one increased binding energy hydrogen species.

38. (Original) A compound of claim 1 having a formula MX wherein M is positive, neutral,

or negative and is selected from the list of H_{16}, $H_{16}H$, $H_{16}H_2$, $H_{24}H_{23}$, OH_{22}, OH_{23}, OH_{24}, $MgH_2\ H_{16}$, $NaH_3\ H_{16}$, $H_{24}H_2O$, CNH_{16}, CH_{30}, SiH_4H_{16}, $(H_{16})_3\ H_{15}$, $SiH_4(H_{16})_2$, $(H_{16})_4$, H_{70}, $Si_2H_6H_{16}$, $(SiH_4)_2H_{16}$, $SiH_4(H_{16})_3$, CH_{70}, NH_{69}, NH_{70}, NHH_{70}, OH_{70}, H_2OH_{70}, FH_{70}, H_3OH_{70}, SiH_2H_{60}, $Si(H_{16})_3\ H_{15}$, $Si(H_{16})_4$, $Si_2H_6(H_{16})_2$, $Si_2H_7(H_{16})_2$, $SiH_3(H_{16})_4$, $(SiH_4)_2(H_{16})_2$, $O_2(H_{16})_4$, $SiH_4(H_{16})_4$, NOH_{70}, O_2H_{69}, $HONH_{70}$, O_2H_{70}, H_2ONH_{70}, $H_3O_2H_{70}$, $Si_2H_6(H_{24})_2$, $Si_2H_6(H_{16})_3$, $(SiH_4)_3\ H_{16}$, $(SiH_4)_2(H_{16})_3$, $(OH_{23})H_{16}H_{70}$, $(OH_{24})H_{16}H_{70}$, $Si_3H_{10}(H_{16})_2$, Si_2H_{70}, $Si_3H_{11}(H_{16})_2$, $Si_2H_7(H_{16})_4$, $(SiH_4)_3(H_{16})_2$, $(SiH_4)_2(H_{16})_4$, $NaOSiH_2(H_{16})_4$, $NaKH\ H_{70}$, $Si_2H_7(H_{70})$, $Si_3H_9(H_{16})_3$, $Si_3H_{10}(H_{16})_3$, $Si_2H_6(H_{16})_5$, $(SiH_4)_4H_{16}$, $(SiH_4)_3(H_{16})_3$, $Na_2OSiH_2(H_{16})_4$, $Si_3H_8(H_{16})_4$, $Na_2KH\ H_{70}$, $Si_3H_9(H_{16})_4$, $Na_2HKH\ H_{70}$, $SO(H_{16})_6(H_{15})$, $SH_2(OH_{23})H_{16}H_{70}$, $SO(H_{16})_7$, $Mg_2H_2H_{23}H_{16}H_{70}$, $(SiH_4)_4(H_{16})_2$, $(SiH_4)_3(H_{16})_4$, $KH_3O(H_{16})_2H_{70}$, $KH_5O(H_{16})_2H_{70}$, $K(OH_{23})H_{16}H_{70}$, $K_2OH\ H_{70}$, $NaKHO_2H_{70}$, $NaOHNaO_2\ H_{70}$, $HNO_3\ O_2\ H_{70}$, $Rb(H_{16})_5$, $Si_3H_{11}H_{70}$, $KNO_2(H_{16})_5$, $(SiH_4)_4(H_{16})_3$, $KKH(H_{16})_7$, $(SiH_4)_4(H_{16})_4$, $(KH_2)_2(H_{16})_3H_{70}$, $(NiH_2)_2HCl(H_{16})_2H_{70}$, Si_5OH_{102}, $(SiH_3)_7(H_{16})_5$, $Na_3O_3(SiH_3)_{10}SiH(H_{16})_5$, X is other element, and the hydrogen content H of the compound comprises at least one increased binding energy hydrogen.

39. (Original) A compound of claim 1 having a formula MX wherein M is positive, neutral, or negative and is selected from the list of H_{16}, $H_{16}H$, $H_{16}H_2$, $H_{24}H_{23}$, OH_{22}, OH_{23}, OH_{24}, $MgH_2\ H_{16}$, $NaH_3\ H_{16}$, $H_{24}H_2O$, CNH_{16}, CH_{30}, SiH_4H_{16}, $(H_{16})_3\ H_{15}$, $SiH_4(H_{16})_2$, $(H_{16})_4$, H_{70}, $Si_2H_6H_{16}$, $(SiH_4)_2H_{16}$, $SiH_4(H_{16})_3$, CH_{70}, NH_{69}, NH_{70}, NHH_{70}, OH_{70}, H_2OH_{70}, FH_{70}, H_3OH_{70}, SiH_2H_{60}, $Si(H_{16})_3\ H_{15}$, $Si(H_{16})_4$, $Si_2H_6(H_{16})_2$, $Si_2H_7(H_{16})_2$, $SiH_3(H_{16})_4$, $(SiH_4)_2(H_{16})_2$, $O_2(H_{16})_4$, $SiH_4(H_{16})_4$, NOH_{70}, O_2H_{69}, $HONH_{70}$, O_2H_{70}, H_2ONH_{70}, $H_3O_2H_{70}$, $Si_2H_6(H_{24})_2$, $Si_2H_6(H_{16})_3$, $(SiH_4)_3\ H_{16}$, $(SiH_4)_2(H_{16})_3$, $(OH_{23})H_{16}H_{70}$, $(OH_{24})H_{16}H_{70}$, $Si_3H_{10}(H_{16})_2$, Si_2H_{70}, $Si_3H_{11}(H_{16})_2$, $Si_2H_7(H_{16})_4$, $(SiH_4)_3(H_{16})_2$, $(SiH_4)_2(H_{16})_4$, $NaOSiH_2(H_{16})_4$, $NaKH\ H_{70}$, $Si_2H_7(H_{70})$, $Si_3H_9(H_{16})_3$, $Si_3H_{10}(H_{16})_3$, $Si_2H_6(H_{16})_5$, $(SiH_4)_4H_{16}$, $(SiH_4)_3(H_{16})_3$, $Na_2OSiH_2(H_{16})_4$, $Si_3H_8(H_{16})_4$, $Na_2KH\ H_{70}$, $Si_3H_9(H_{16})_4$, $Na_2HKH\ H_{70}$, $SO(H_{16})_6(H_{15})$, $SH_2(OH_{23})H_{16}H_{70}$, $SO(H_{16})_7$, $Mg_2H_2H_{23}H_{16}H_{70}$, $(SiH_4)_4(H_{16})_2$, $(SiH_4)_3(H_{16})_4$, $KH_3O(H_{16})_2H_{70}$, $KH_5O(H_{16})_2H_{70}$, $K(OH_{23})H_{16}H_{70}$, $K_2OH\ H_{70}$, $NaKHO_2H_{70}$, $NaOHNaO_2\ H_{70}$, $HNO_3\ O_2\ H_{70}$, $Rb(H_{16})_5$, $Si_3H_{11}H_{70}$, $KNO_2(H_{16})_5$, $(SiH_4)_4(H_{16})_3$, $KKH(H_{16})_7$, $(SiH_4)_4(H_{16})_4$, $(KH_2)_2(H_{16})_3H_{70}$, $(NiH_2)_2HCl(H_{16})_2H_{70}$, Si_5OH_{102}, $(SiH_3)_7(H_{16})_5$, $Na_3O_3(SiH_3)_{10}SiH(H_{16})_5$, X is an increased binding energy hydrogen compound, and the hydrogen content H of the compound comprises at least one increased binding energy hydrogen.

40. (Original) A compound of claim 1 having a formula $M(H_x)_n$ wherein n is an integer, x is an integer from 8 to 12, M is other element such as any atom, molecule, or compound, and

the hydrogen content $(H_x)_n$ of the compound comprises at least one increased binding energy hydrogen species.

41. (Original) A compound of claim 1 having a formula $M(H_x)_n$ wherein n is an integer, x is an integer from 8 to 12, M is an increased binding energy hydrogen compound, and the hydrogen content $(H_x)_n$ of the compound comprises at least one increased binding energy hydrogen species.

42. (Original) A compound of claim 1 having a formula $M^+(H_x)_n^-$ wherein n is an integer, x is an integer from 14 to 18, M is other element such as an alkali, organic, organometalic, inorganic, or ammonium cation, and the hydrogen content $(H_x)_n^-$ of the compound comprises at least one increased binding energy hydrogen species.

43. (Original) A compound of claim 1 having a formula $M^+(H_x)_n^-$ wherein n is an integer, x is an integer from 14 to 18, M is an increased binding energy hydrogen compound, and the hydrogen content $(H_x)_n^-$ of the compound comprises at least one increased binding energy hydrogen species.

44. (Original) A compound of claim 1 having a formula $M(H_x)_n$ wherein n is an integer, x is an integer from 14 to 18, M is other element such as any atom, molecule, or compound, and the hydrogen content $(H_x)_n$ of the compound comprises at least one increased binding energy hydrogen species.

45. (Original) A compound of claim 1 having a formula $M(H_x)_n$ wherein n is an integer, x is an integer from 14 to 18, M is an increased binding energy hydrogen compound, and the hydrogen content $(H_x)_n$ of the compound comprises at least one increased binding energy hydrogen species.

46. (Original) A compound of claim 1 having a formula $M(H_x)_n$ wherein n is an integer, x is an integer from 22 to 26, M is other element such as any atom, molecule, or compound, and the hydrogen content $(H_x)_n$ of the compound comprises at least one increased binding energy hydrogen species.

47. (Original) A compound of claim 1 having a formula $M(H_x)_n$ wherein n is an integer, x is an integer from 22 to 26, M is an increased binding energy hydrogen compound, and the

hydrogen content $(H_x)_n$ of the compound comprises at least one increased binding energy hydrogen species.

48. (Original) A compound of claim 1 having a formula $M(H_x)_n$ wherein n is an integer, x is an integer from 58 to 62, M is other element such as any atom, molecule, or compound, and the hydrogen content $(H_x)_n$ of the compound comprises at least one increased binding energy hydrogen species.

49. (Original) A compound of claim 1 having a formula $M(H_x)_n$ wherein n is an integer, x is an integer from 58 to 62, M is an increased binding energy hydrogen compound, and the hydrogen content $(H_x)_n$ of the compound comprises at least one increased binding energy hydrogen species.

50. (Previously Presented) A compound of claim 1 having a formula $M(H_x)_n$ wherein n is an integer, x is an integer from 68 to 72, M is other element such as any atom, molecule, or compound, and the hydrogen content $(H_x)_n$ of the compound comprises at least one increased binding energy hydrogen species.

51. (Original) A compound of claim 1 having a formula $M(H_x)_n$ wherein n is an integer, x is an integer from 68 to 72, M is an increased binding energy hydrogen compound, and the hydrogen content $(H_x)_n$ of the compound comprises at least one increased binding energy hydrogen species.

52. (Original) A compound of claim 1 having a formula $M(H_x)_q(H_{x'})_r(H_y)_s(H_{y'})_t(H_z)_u$ wherein the monomers may be arranged in any order, q, r, s, t, and u are each an integer including zero but not all zero, x is an integer from 8 to 12, x' is an integer from 14 to 18, y is an integer from 22 to 26, y' is an integer from 58 to 62, z is an integer from 68 to 72, M is other element such as any atom, molecule, or compound, and the hydrogen content $(H_x)_q(H_{x'})_r(H_y)_s(H_{y'})_t(H_z)_u$ of the compound comprises at least one increased binding energy hydrogen species.

53. (Original) A compound of claim 1 having a formula $M(H_x)_q(H_{x'})_r(H_y)_s(H_{y'})_t(H_z)_u$ wherein the monomers may be arranged in any order, q, r, s, t, and u are each an integer including zero but not all zero, x is an integer from 8 to 12, x' is an integer from 14 to 18, y is an integer from 22 to 26, y' is an integer from 58 to 62, z is an integer from 68 to 72, M is an

increased binding energy hydrogen compound, and the hydrogen content $(H_x)_q(H_{x'})_r(H_y)_s(H_y)_t(H_z)_u$ of the compound comprises at least one increased binding energy hydrogen species.

54. (Original) A compound of claim 1 having a formula $[KHKOH]_p[KH_5KOH]_q[KH\ KHCO_3]_r[KHCO_3]_s[K_2CO_3]$ wherein the monomers may be arranged in any order, p, q, r, s, and t are each an integer including zero but not all zero, the compound contains at least one H, and the hydrogen content H of the compound comprises at least one increased binding energy hydrogen.

55. (Original) A compound of claim 1 having a formula $[MH_m]_n[MM'H_m]_{n'}[KH_mKCO_3]_n[KH_mKNO_3]_n^+ nX^-[KHKNO_3]_n$ $[KHKOH]_n[MH_mM'X]_n[MH_mM'X']_n^{m'+} n'X^-[MH_mM'X']_n^{m'-} n'M''^+[MH_m]_n^{m'+} n'X^-$ $[MH_m]_n^{m'-} n'M^+M^+H_{16}^-[KHKOH]_p[KH_5KOH]_q[KH\ KHCO_3]_r[KHCO_3]_s[K_2CO_3]$ wherein the monomers may be arranged in any order, n, n', m, m', p, q, r, s, and t are each an integer including zero but not all zero, M, M', and M'' are each an alkali or alkaline earth, organic, organometalic, inorganic, or ammonium cation, X and X' are a singly or doubly negative charged anion, the compound contains at least one H, and the hydrogen content H of the compound comprises at least one increased binding energy hydrogen species.

56. (Original) A compound of claim 1 having a formula $[MH_m]_n[MM'H_m]_{n'}[KH_mKCO_3]_n[KH_mKNO_3]_n^+ nX^-[KHKNO_3]_n$ $[KHKOH]_n[MH_mM'X]_n[MH_mM'X']_n^{m'+} n'X^-[MH_mM'X']_n^{m'-} n'M''^+[MH_m]_n^{m'+} n'X^-$ $[MH_m]_n^{m'-} n'M^+M^+H_{16}^-[KHKOH]_p[KH_5KOH]_q[KH\ KHCO_3]_r[KHCO_3]_s[K_2CO_3]$ $M'''(H_{10})_{q'}(H_{16})_{r'}(H_{24})_{s'}(H_{60})_{t'}(H_{70})_u$ wherein the monomers may be arranged in any order, n, n', m, m', p, q, r, s, t, q', r', s', t', and u are each an integer including zero but not all zero, M, M', and M'' are each an alkali or alkaline earth, organic, organometalic, inorganic, or ammonium cation, M''' is other element, X and X' are a singly or doubly negative charged anion, the compound contains at least one H, and the hydrogen content H of the compound comprises at least one increased binding energy hydrogen species.

57. (Original) A compound of claim 1 having a formula $[MH_m]_n[MM'H_m]_{n'}[KH_mKCO_3]_n[KH_mKNO_3]_n^+ nX^-[KHKNO_3]_n$ $[KHKOH]_n[MH_mM'X]_n[MH_mM'X']_n^{m'+} n'X^-[MH_mM'X']_n^{m'-} n'M''^+[MH_m]_n^{m'+} n'X^-$

$[MH_m]_n^{n'-}$ n' M^+ $M^+H_{16}^-$ $[KHKOH]_p$ $[KH_5KOH]_q$ $[KH\ KHCO_3]_r$ $[KHCO_3]_s$ $[K_2CO_3]_t$ $M''(H_{10})_{q'}(H_{16})_{r'}(H_{24})_{s'}(H_{60})_{t'}(H_{70})_u$ wherein the monomers may be arranged in any order, n, n', m, m', p, q, r, s, t, q', r', s', t', and u are each an integer including zero but not all zero, M, M', and M" are each an alkali or alkaline earth, organic, organometalic, inorganic, or ammonium cation, M"' is an increased binding energy hydrogen compound, X and X' are a singly or doubly negative charged anion, the compound contains at least one H, and the hydrogen content H of the compound comprises at least one increased binding energy hydrogen species.

58. (Original) A compound of claim 1 having a formula $[MH_m]_n[MM'H_m]_n[KH_mKCO_3]_n[KH_mKNO_3]_n^+$ nX^- $[KHKNO_3]_n$ $[KHKOH]_n[MH_mM'X]_n[MH_mM'X]_n^{m'+}$ $n'X^-$ $[MH_mM'X]_n^{m'-}$ $n'M''^+$ $[MH_m]_n^{m'+}$ $n'X^-$ $[MH_m]_n^{n'-}$ n' M^+ $M^+H_{16}^-$ $[KHKOH]_p$ $[KH_5KOH]_q$ $[KH\ KHCO_3]_r$ $[KHCO_3]_s$ $[K_2CO_3]_t$ $M'''(H_x)_q(H_{x'})_r(H_y)_s(H_{y'})_t(H_z)_u$ wherein the monomers may be arranged in any order, n, n', m, m', p, q, r, s, t, q', r', s', t', and u are each an integer including zero but not all zero, x is an integer from 8 to 12, x' is an integer from 14 to 18, y is an integer from 22 to 26, y' is an integer from 58 to 62, z is an integer from 68 to 72, M, M', and M" are each an alkali or alkaline earth, organic, organometalic, inorganic, or ammonium cation, M"' is other element, X and X' are a singly or doubly negative charged anion, the compound contains at least one H, and the hydrogen content H of the compound comprises at least one increased binding energy hydrogen species.

59. (Original) A compound of claim 1 having a formula $[MH_m]_n[MM'H_m]_n[KH_mKCO_3]_n[KH_mKNO_3]_n^+$ nX^- $[KHKNO_3]_n$ $[KHKOH]_n[MH_mM'X]_n[MH_mM'X']_n^{m'+}$ $n'X^-$ $[MH_mM'X']_n^{m'-}$ $n'M''^+$ $[MH_m]_n^{m'+}$ $n'X^-$ $[MH_m]_n^{m'-}$ $n'M''^+$ $M^+H_{16}^-$ $[KHKOH]_p[KH_5KOH]_q[KH\ KHCO_3]_r[KHCO_3]_s[K_2CO_3]_t$ $M'''(H_x)_q(H_{x'})_r(H_y)_s(H_{y'})_t(H_z)_u$ wherein the monomers may be arranged in any order, n, n', m, m', p, q, r, s, t, q', r', s', t', and u are each an integer including zero but not all zero, x is an integer from 8 to 12, x' is an integer from 14 to 18, y is an integer from 22 to 26, y' is an integer from 58 to 62, z is an integer from 68 to 72, M, M', and M" are each an alkali or alkaline earth, organic, organometalic, inorganic, or ammonium cation, M"' is an increased binding energy hydrogen compound, X and X' are a singly or doubly negative charged anion,

the compound contains at least one H, and the hydrogen content H of the compound comprises at least one increased binding energy hydrogen species.

60. (Original) A compound of claim 1 having a formula $[MH_m]_n[MM'H_m]_{n'}[KH_mKCO_3]_n[KH_mKNO_3]_n^+ nX^-[KHKNO_3]_n$ $[KHKOH]_n[MH_mM'X]_n[MH_mM'X']_n^{m'+} n'X^-[MH_mM'X']_n^{m'-} n'M''^+[MH_m]_n^{m'+} n'X^-$ $[MH_m]_n^{m'-} n'M^+M^+H_{16}^-[KHKOH]_p[KH_5KOH]_q[KH\,KHCO_3]_r[KHCO_3]_s[K_2CO_3]$ $M''(H_x)_q(H_{x'})_r(H_y)_s(H_{y'})_t(H_z)_u$ wherein the monomers may be arranged in any order, n, n', m, m', p, q, r, s, t, q', r', s', t', and u are each an integer including zero but not all zero, x is an integer from 8 to 12, x' is an integer from 14 to 18, y is an integer from 22 to 26, y' is an integer from 58 to 62, z is an integer from 68 to 72, M, M' and M'' are each a metal such as silicon, aluminum, Group III A elements, Group IVA elements, a transition metal, inner transition metal, tin, boron, or a rare earth, lanthanide, an alkali or alkaline earth, organic, organometalic, inorganic, or ammonium cation, M''' is other element, X and X' are a singly or doubly negative charged anion, the compound contains at least one H, and the hydrogen content H of the compound comprises at least one increased binding energy hydrogen species.

61. (Original) A compound of claim 1 having a formula $[MH_m]_n[MM'H_m]_{n'}[KH_mKCO_3]_n[KH_mKNO_3]_n^+ nX^-[KHKNO_3]_n$ $[KHKOH]_n[MH_mM'X]_n[MH_mM'X']_n^{m'+} n'X^-[MH_mM'X']_n^{m'-} n'M''^+[MH_m]_n^{m'+} n'X^-$ $[MH_m]_n^{m'-} n'M^+M^+H_{16}^-[KHKOH]_p[KH_5KOH]_q[KH\,KHCO_3]_r[KHCO_3]_s[K_2CO_3]$ $M''(H_x)_q(H_{x'})_r(H_y)_s(H_{y'})_t(H_z)_u$ wherein the monomers may be arranged in any order, n, n', m, m', p, q, r, s, t, q', r', s', t', and u are each an integer including zero but not all zero, x is an integer from 8 to 12, x' is an integer from 14 to 18, y is an integer from 22 to 26, y' is an integer from 58 to 62, z is an integer from 68 to 72, M, M' and M'' are each a metal such as silicon, aluminum, Group III A elements, Group IVA elements, a transition metal, inner transition metal, tin, boron, or a rare earth, lanthanide, an alkali or alkaline earth, organic, organometalic, inorganic, or ammonium cation, M''' is an increased binding energy hydrogen compound, X and X' are a singly or doubly negative charged anion, the compound contains at least one H, and the hydrogen content H of the compound comprises at least one increased binding energy hydrogen species.

62. (Original) A compound of claim 1 having a formula $Si_xH_y(H_{16})_z$ wherein x is an integer, y is an integer from 2x+2 to 4x, z is an integer, and the hydrogen content H of the compound comprises at least one increased binding energy hydrogen species.

63. (Original) A compound of claim 16 wherein said singly negative charged anion is selected from the group consisting of halogen ions, hydroxide ion, hydrogen carbonate ion, dihydrogen phosphate, and nitrate ion.

64. (Original) A compound of claim 19 wherein said singly negative charged anion is selected from the group consisting of halogen ion, hydroxide ion, hydrogen carbonate ion, dihydrogen phosphate, and nitrate ion.

65. (Original) A compound of claim 20 wherein said singly negative charged anion is selected from the group consisting of halogen ion, hydroxide ion, hydrogen carbonate ion, dihydrogen phosphate, and nitrate ion.

66. (Original) A compound of claim 21 wherein said singly negative charged anion is selected from the group consisting of halogen ions, hydroxide ion, hydrogen carbonate ion, dihydrogen phosphate, and nitrate ion.

67. (Original) A compound of claim 22 wherein said singly negative charged anion is selected from the group consisting of halogen ion, hydroxide ion, hydrogen carbonate ion, dihydrogen phosphate, and nitrate ion.

68. (Original) A compound of claim 55 wherein said singly negative charged anion is selected from the group consisting of halogen ions, hydroxide ion, hydrogen carbonate ion, dihydrogen phosphate, and nitrate ion.

69. (Original) A compound of claim 56 wherein said singly negative charged anion is selected from the group consisting of halogen ion, hydroxide ion, hydrogen carbonate ion, dihydrogen phosphate, and nitrate ion.

70. (Original) A compound of claim 57 wherein said singly negative charged anion is selected from the group consisting of halogen ion, hydroxide ion, hydrogen carbonate ion, dihydrogen phosphate, and nitrate ion.

71. (Original) A compound of claim 58 wherein said singly negative charged anion is selected from the group consisting of halogen ions, hydroxide ion, hydrogen carbonate ion, dihydrogen phosphate, and nitrate ion.

72. (Original) A compound of claim 59 wherein said singly negative charged anion is selected from the group consisting of halogen ions, hydroxide ion, hydrogen carbonate ion, dihydrogen phosphate, and nitrate ion.

73. (Original) A compound of claim 60 wherein said singly negative charged anion is selected from the group consisting of halogen ions, hydroxide ion, hydrogen carbonate ion, dihydrogen phosphate, and nitrate ion.

74. (Original) A compound of claim 61 wherein said singly negative charged anion is selected from the group consisting of halogen ion, hydroxide ion, hydrogen carbonate ion, dihydrogen phosphate, and nitrate ion.

75. (Original) A compound of claim 19 wherein said doubly negative charged anion is selected from the group consisting of carbonate ion, oxides, phosphates, hydrogen phosphates, and sulfate ion.

76. (Previously Presented) A compound of claim 20 wherein said doubly negative charged anion is selected from the group consisting of carbonate ion, oxides, phosphates, hydrogen phosphates, and sulfate ion.

77. (Previously Presented) A compound of claim 22 wherein said doubly negative charged anion is selected from the group consisting of carbonate ion, oxides, phosphates, hydrogen phosphates, and sulfate ion.

78. (Previously Presented) A compound of claim 55 wherein said doubly negative charged anion is selected from the group consisting of carbonate ion, oxides, phosphates, hydrogen phosphates, and sulfate ion.

79. (Previously Presented) A compound of claim 56 wherein said doubly negative charged anion is selected from the group consisting of carbonate ion, oxides, phosphates, hydrogen phosphates, and sulfate ion.

80. (Previously Presented) A compound of claim 57 wherein said doubly negative charged anion is selected from the group consisting of carbonate ion, oxides, phosphates, hydrogen phosphates, and sulfate ion.

81. (Previously Presented) A compound of claim 58 wherein said doubly negative charged anion is selected from the group consisting of carbonate ion, oxides, phosphates, hydrogen phosphates, and sulfate ion.

82. (Previously Presented) A compound of claim 59 wherein said doubly negative charged anion is selected from the group consisting of carbonate ion, oxides, phosphates, hydrogen phosphates, and sulfate ion.

83. (Previously Presented) A compound of claim 60 wherein said doubly negative charged anion is selected from the group consisting of carbonate ion, oxides, phosphates, hydrogen phosphates, and sulfate ion.

84. (Previously Presented) A compound of claim 61 wherein said doubly negative charged anion is selected from the group consisting of carbonate ion, oxides, phosphates, hydrogen phosphates, and sulfate ion.

85-98 (Cancelled)

99. (Previously Presented) The compound of claim 1, wherein the compound is formulated to be statically chargeable.

100. (Previously Presented) The compound of claim 1, wherein the compound is formulated to provide magnetic properties.

101. (Previously Presented) The compound of claim 1, wherein the compound is formulate to provide properties suitable for use as an etching agent.

102. (Previously Presented) The compound of claim 99, wherein said compound is formulated to be statically chargeable and suitable for use as a component of a xerographic toner.

103. (Previously Presented) The compound of claim 100, wherein the compound is

formulated to provide magnetic properties suitable for use in magnetic media storage.

104. (Previously Presented) A compound comprising at least one monomer or polymer comprising at least one increased binding energy hydride ion having a binding energy greater than 0.8 eV and at least one other element, wherein the compound is selected from the group consisting of KHF, KHCl, KHBr, KHI, RbHF, RrHCL, RbHBr, RbHI, CsHF, CsHCL, CsHBr, CsHI, CaHCl, CaHBr, CaHI, SrHF, SrHCL. SrHBr, and SiH.

105. (New) A compound according to claim 1, wherein the compound comprises FeH.